

ELKO 21 FIRE COMPLEX

CULTURAL RESOURCE ASSESSMENT

I. ISSUES

- Occurrence of prehistoric and historic archaeological resources, historic structures, and historic landscapes within the burned area and fire suppression area;
- Potential for impacts to cultural properties consequent to the wildfire, fire suppression and rehabilitation activities;
- Assessment of fire and fire suppression effects on previously documented cultural resources, as well as those identified during the ground disturbance inventories associated with the Elko 21 Fire Complex;
- Recommendation of appropriate evaluation, monitoring, or preservation treatments for cultural resources affected by fire, suppression, or rehabilitation activities; and
- Avoidance or mitigation of adverse effects to cultural resources from suppression and rehabilitation activities.

II. BACKGROUND INFORMATION

“Prehistory” and “history” are the cumulative records of the human experience of thousands of people over the past 12,000 years, as represented by their material remains upon the landscape. A complete summary of the history and prehistory of the region is not possible here. The following information is intended to be a cursory overview of present knowledge, and is not represented as a comprehensive summary. The purpose of this background information is to provide a framework within which the fire, suppression activity, post-suppression inventory, and recommended cultural resource prescriptions may be considered in context.

The Elko 21 Fire Complex occurred within an area known to archaeologists as the Central Great Basin, which is characterized by long, north-south trending mountain ranges and valleys known to have been inhabited for approximately 12,000 years. Valley floors are over 5,000 feet in elevation, and mountains tend to be as much as 10,000 feet above sea level. Some of these valleys were filled with lakes during the Pleistocene; they were at their deepest levels between 18,000 and 15,000 years ago, shrinking to lower levels by 11,000 years ago. A progressive reduction in effective precipitation after about 15,000 years ago dried these lakes by about 10,000 years ago. This latter date also marks the final extinction for many of the late Pleistocene megafauna such as horses, camels, and mammoths. Temperatures continued to climb and peaked between 8,300 and 7,000 years ago. It was during this time period that the pinyon pine and Utah juniper migrated into the central and northern Great Basin. A cool and moist period created many marshlands throughout the Great Basin between 4,000 and 2,000 years ago. After this time, the climate has been much like it is today, with relatively short periods of drought and high precipitation during specific intervals.

The Central Great Basin was occupied by Western Shoshone peoples at the time that Euro-American contact was first established by Jedediah Smith in 1827-30. Peter Ogden traveled through the northern Great Basin Region (1829 -1830) and extended these contacts. The Humboldt River Valley may have been traveled first by non-Indians in 1830-31 by the Bonneville-Walker party. Incidental contact occurred between trappers, mountain men and settlers until the mid-1840's. With the discovery of gold in California in the mid to late 1840's, hundreds of thousands of emigrants passed through the region on their way to California. Today known as the California Emigrant Trail, this route is part of the National Trail System.

The prehistory of the region prior to Euroamerican contact with the Western Shoshone is documented through archaeological research. What is known is that the Central Great Basin has been occupied in excess of 10,000 years. Prehistoric peoples moved from one place to another

relatively frequently throughout the year in order to procure food and other natural resources, which created literally thousands of cultural resource sites across the landscape. The region's dry climate and very low development of the land tends to preserve these sites to a much greater extent than other parts of the country. For the purposes of this assessment, it is sufficient to say that while arguments concerning prehistory, linguistics, ethnicity and demography are of significant interest and a source of potential research in the area, the objectives of this assessment are not served by documenting these debates. It is important to note, however, that the Great Basin is an important region for the study of human adaptation to the environment, and how the environment influences human behavior. The mandate of this assessment, therefore, is to ensure that cultural resources that can provide significant information toward an understanding of these research goals, and which were damaged by the suppression of fires or the related rehabilitation efforts, be properly identified and evaluated.

The operating principal of heritage protection is that the survival of intact elements of the prehistoric and historic human record upon this erosive landscape is significant, and these resources are protected by various laws. With the added toll of agricultural and industrial land development, each prehistoric and historic archaeological site surviving assumes increasing importance to science, culture and education.

Table CR. 1 Elko 21 Fire Complex Cultural Resource Advisors

Name	Home Office	Work Period
Bryan Hockett	Elko Field Office	throughout fire season
Tim Murphy	Elko Field Office	throughout fire season
Cristina Weinberg	Elko Field Office	throughout fire season
Eric Dillingham	Elko Field Office	throughout fire season

III. RECONNAISSANCE METHODOLOGY

Protection of human life and property from wildfire takes precedence over the protection of historic and prehistoric cultural properties. However, the diminishing numbers of archaeological sites representing millennia of human life must be provided protection whenever possible. Section 106 of the National Historic Preservation Act mandates that the Federal Government take account for cultural resources in its projects and undertakings. Fire suppression and subsequent rehabilitation efforts are subject to Section 106 regulations. Legal requirements are expanded upon below.

The protection of cultural resources did not appear to be a priority during suppression of the 21 individual fires analyzed in this report. Starting with the lightning ignition of the South Cricket Fire on July 25 to containment of the West Basin Fire on September 6, 2000, the number of acres and fires burning in the area emphasized suppression efforts which were prioritized according to protection of structures and containment from further spread. Input from cultural resource specialists was minimal, sometimes no more than a phone call, and often only a single archaeologist was available to provide input on a fire raging out of control and burning tens of thousands of acres.

Although the initial attack efforts were conducted without any strong emphasis on the protection of cultural resources, attempts were made after suppression efforts were initiated to monitor suppression activities and protect potential cultural properties from inadvertent damage. However, the vast scale of the Eastern Nevada landscape, and the sheer size of the fires involved (up to 66,487 acres), prevented any effective intervention by the limited cultural

heritage resource staff available to the effort. Informal inventories/damage assessments were subsequently undertaken for selected fires. Cultural resource protection was a high priority during BAER activities and tasks.

Table CR.2, considered together with the list of issues used to introduce this section of the BAER Plan, represent the primary goals for conducting this cultural resources assessment. The actions taken to meet these goals are also summarized. Secondary goals reflected in the assessment process included (1) adherence to BLM/SHPO protocols concerning approaches to and treatment of cultural resources, (2) full recording or updating of documentation on all cultural resources affected by the fire complex, and (3) protection for or mitigation of adverse effects to cultural properties affected by suppression or post-suppression activity.

**Table CR.2 Elko 21 Fire Complex
Cultural Resource Assessment Objectives and Activities**

Date	Resource Protection	Disturbance Area Inventory	Damage Assessment	Rehabilitation Prescription & Treatment
7/25 thru 9/6	Life and property primarily, avoidance and protection of sites, if possible and if known.	Portions of dozer lines inspected for damage to cultural resources at South Cricket, Camp Creek, Rabbit, Wimpy, and Choke Cherry Fires	Dozer lines impacted highly significant cultural resources, including the CA Emigrant Trail, a pronghorn trap, and a Native American wickiup structure; dozens of previously unrecorded prehistoric and historic sites damaged	Continue inspection of fire suppression activities for further planning efforts.
8/28-9/15	Elko BLM archaeologists assist writing BAER plan	Office records reviewed for potential damage in fire areas; recon. inspection of dozer lines at South Cricket and Mule Fires	list of areas that contain known damaged sites created	Information included in BAER Plan.
9/16 - on	Long-term Evaluation and Enhancements	Suppression disturbance areas and rehabilitation areas		Site evaluation for NR-eligibility status, production of written reports, mitigation plans written and implemented

Cultural resources located in the field by BAER personnel are discussed in detail in the findings section found later in this text. None of the identified historic or prehistoric sites or locales was formally recorded, because time did not allow for comprehensive inventory and evaluation. What is provided are (1) descriptions of resources observed, (2) gross numbers of archaeological sites and cultural properties within the burn perimeters, (3) descriptions of the nature and extent of fire effects or fire suppression-related damages on known and potential

cultural resources, and (4) recommendations for actions or treatments for resource stabilization, rehabilitation, or mitigation, if applicable.

A guiding principle, as well as legal requirements of burned area rehabilitation efforts, is to regard archaeological sites and other materially fragile cultural resources as watershed elements. If post-fire conditions indicate erosion threats or other actual or potential watershed problems, then cultural resources must receive special attention to ensure that their unique and irreplaceable values are given full consideration.

Incident-related damages to cultural resources fall in two broad categories: fire-related and suppression-related. Fire-related impacts include thermal fracturing of obsidian, basalt, chert, granite and other stone artifacts, destruction of structures and features, destruction of organic elements in an occupational or midden deposit, destabilization of soils within a site or landscape with resultant increased erosion, wind deflation of loosened sediments, and increased susceptibility to looting and surface collection due to greater visibility. Suppression related impacts come from disturbance or destruction from dozer or hand line construction, use of sites for fire camp or equipment staging, and rehabilitation activities, including restoration of dozer and hand lines, silt basin construction, restoration of range and forest land, restoration of damaged roads, the installation of new fences, and replacement of infrastructure. Effects to sites may be direct, for example when a dozer line physically destroys part of an archaeological site; these effects are generally adverse to a National register eligible site under criterion "d" of the National Historic Preservation Act (NHPA). Effects to sites also may be indirect, such as loss of setting and feeling along an emigrant trail; in these cases, the effects are generally adverse to a National Register eligible site under categories "a", "b" or "c" of the NHPA.

IV. FINDINGS

The Elko 21 Fire Complex cultural resource assessment addresses 21 fires, encompassing approximately 220,497 acres, the perimeters of which contain hundreds of historic and prehistoric archaeological sites. These sites range from historic sites such as the California Emigrant Trail and sites associated with the construction of railroads, to protohistoric sites (sites that date to the beginning of Euroamerican contact with Native Americans) and prehistoric sites such as American Indian camp, quarry, and food-procurement locales. Since many of these activities occur within the same land form, the prehistoric and historic cultural elements of the rehabilitation effort can be quite complex.

In addition to the huge size of the effort required in support of this cultural resource inventory, problems with the cultural resource data base at the field office level significantly hindered the assembly of a list of recorded historic and prehistoric properties which may have been affected by the fires. At the heart of this problem is the fact that, until recently, two former Elko BLM Resource Areas used widely-different cultural resource record systems which were only recently merged into one field office system. One system employed a traditional atlas utilizing 7.5' USGS quadrangles marked with specific site locations. The other system only marked archaeological inventory information on the quadrangles, referencing the reader to the field reports filed separately. Hence, rapid retrieval by BAER personnel of specific site location data was at times not possible. While Elko Field Office archaeologists are seeking computerized database and geographic information systems for their record-keeping systems, there has not been significant progress in the time period from 1999 to 2000. In addition, the time frame for the preparation of this BAER Plan made it impossible to check all previous records for numbers of sites within each fire and numbers of previously recorded sites damaged by fire suppression activities.

Table CR.2 summarizes numbers of recorded cultural resource localities associated with the fires relevant to the assessment process, reasonably foreseeable rehabilitation actions, or both. It was not possible to assess each site individually. Site assessments must await cultural resource inventory, performed under contract, in advance of the variety of rehabilitation projects recommended in the cultural resource prescriptions.

Table CR.3 Cultural Resources Associated with the Elko 21 Fire Complex

Fire Name	Acres Burned	Recorded Sites in Perimeter	Notes
South Cricket	66,487	California Emigrant Trail; numerous historic and prehistoric sites	89.5 miles of dozer lines; 2,062 acres of drill seeding proposed; adverse impacts occurred to several miles of California Emigrant Trail, a National Register eligible site which is part of the National Trails System; known impacts to historic sites associated with eligible railroad grades; impacts to prehistoric sites highly probable
Wimpy Complex	2,870	none	33.6 miles of dozer lines; 6 miles of road repair proposed; impacts occurred to unrecorded prehistoric sites
Charlie	3,021	protohistoric and prehistoric sites	20 miles of dozer lines; 3.25 miles of road repair proposed; fire destroyed one protohistoric wickiup structure; dozer lines impacted prehistoric sites
Gamble	22	none	no dozer lines; no treatment planned
18 mile	336	unknown	no dozer lines; no treatment planned
21 mile	306	unknown	no dozer lines; no treatment planned
Camp Creek (includes Wildcat, Sun Creek, Stag)	31,194	numerous prehistoric sites throughout the burned area	4 miles of dozer lines; 1 mile of road repair proposed; 14.55 miles of new fence construction proposed; 2,434 acre drill seeding proposed; high likelihood that dozers impacted prehistoric sites due to close proximity to Browns Bench Obsidian Source Area
Mahogany	214	unknown	no dozer lines; 1 mile of road repair proposed; probably of encountering cultural resources unknown
Cold Springs	8,393	unknown	3.5 miles of dozer lines; 3 mile of new fence construction proposed; in Hubbard Basin, where a high density of prehistoric sites is probable
Adobe	6,860	unknown	17.8 miles of dozer lines; largely uninventoried area, but protohistoric wickiups have been found in the area
Sheep Pen	2,496	unknown	2 miles of dozer lines; potential for cultural resources unknown
Vega	2,697	unknown	4.7 miles of dozer lines; potential for cultural resources very high due to proximity to perennial creeks
Three Mile	3,379	unknown	1.8 miles of dozer lines; potential for cultural resources moderate
Rabbit	5,837	protohistoric and prehistoric sites present	24.9 miles of dozer lines; 9.5 miles of road repair proposed that require inventory; 11 miles of new fence construction proposed; 1,384 acres of drill seeding planned; National Register eligible protohistoric pronghorn trap was damaged by fire and dozer line construction

Mule	69	no previous inventory	1.75 miles of dozer lines; dozer line impacted small prehistoric site yet to be recorded; potential for additional sites moderate
Patty Jack	35	unknown	1 mile of dozer lines; potential for cultural resources low; no treatment required
Choke Cherry	31,051	numerous prehistoric sites present	37 miles of dozer lines; 3 miles of road repair proposed; this region is within the Browns Bench Obsidian Source Area, which contains one of highest densities of cultural resources within the Elko District; the potential for adverse impacts to National Register eligible sites is extremely high
West Basin	55,197	numerous prehistoric sites present	79.5 miles of dozer lines; 35.5 miles of new fence construction proposed; 422 acre drill seeding proposed; this region is within the Browns Bench Obsidian Source Area, which contains one of the highest densities of cultural resources within the Elko District; the potential for adverse impacts to National Register eligible sites is extremely high
TOTALS	220,497		

V. RECOMMENDATIONS

A. Management (Specification Related)

Five specifications were prepared to address known and potential effects to cultural resources. C-1a addresses generic inventories for dozer lines, new fence construction and road maintenance. C-1b addresses seeding rehabilitation efforts. C-2a involves inventory in areas to be opened to the public for woodcutting. C-2b addresses adverse impacts to National Register-eligible sites by fire or by fire suppression activities. P-3 addresses the need for additional law enforcement to thwart illegal artifact collecting on sites exposed by the fires. It is recommended that the first four of these specifications be accomplished by contract. Contracts must either address specific rehabilitation or mitigation needs for properties damaged by fire suppression activities, or be written to initiate a large-scale effort to inventory previously-uninventoried areas for potential cultural resources disturbed by previous, or in advance of, further ground-disturbing activity.

After inventory, each cultural property must be evaluated for potential eligibility to the National Register of Historic Places. Only properties eligible to the National Register may be considered as significant, and thus eligible for treatment. There is little doubt that dozer lines adversely impacted significant, previously unrecorded cultural resources. As a result, this BAER Plan will require amending in order to mitigate the effects of fire suppression activity on these sites. This issue is dealt with in further detail under the "Management (non-specification related)" section below.

C-1a - Cultural Resource Damage Assessment

Suppression and rehabilitation efforts of linear projects at 21 fires during the period of July 25 through September 6 have damaged or may result in damages to cultural resources. Linear projects include bulldozer lines, road maintenance activities and new fence construction. Although the projects are dissimilar, the cultural resource inventory effort for each is similar and disparate projects may be put together in one contract. Thus, for the purposes of this plan they are treated together.

Construction of approximately 320 miles of bulldozer line, safety zones, staging areas and helispots have potentially damaged many cultural resources. Secondary impacts to cultural resources from construction of bulldozer lines may result because these lines have opened areas to the public that were previously not accessible by road.

Many roads were damaged by fire fighting equipment either from repeated use by heavy vehicles or due widening of the roads or two-track trails so they could serve as firelines. The original fire fighting activities may have impacted cultural resources. Planned post-fire road maintenance could add to the damage. Cultural resource inventories are needed to assess the impacts and to prevent new impacts.

New fences are planned to protect seedings or burn areas. These fences will be inventoried for cultural resources and rerouted as necessary to avoid eligible sites.

This prescription will focus on the inventory of disturbed areas or areas which will be disturbed, and the evaluation of historic properties located for potential eligibility to the National Register of Historic Places. All dozer line, damaged roads and proposed new fences will receive survey coverage. Actual field experience may require modification of this assumption. Management recommendations will be developed for eligible historic properties in a manner responsive to the damage and the information potential of the site.

C-1b - Cultural Resource Damage Assessment

Areas designated for mechanized seeding for the control of undesirable species and erosion will be inventoried for potential cultural resources. This prescription will focus entirely upon the inventory of disturbed areas and avoidance of cultural resources as specified in Appendix F, Section J (pp 42-43) of the State Protocol Agreement Between the BLM Nevada and the Nevada SHPO. Inventory standards will vary depending on the type of planned treatment and cultural resource sensitivity. The following are minimal standards. Fire rehabilitation activities that involve mechanized surface disturbance less than 10cm depth will generally have transect spacing of 100 meters. More intense inventory will be used for highly sensitive areas. If surface disturbance is greater than 10cm, then 30 meter transect intervals will be used. The BLM, through informal discussions, can agree to modify the inventory approach for individual rehabilitation undertakings.

All cultural resources discovered or relocated will be plotted on maps and at a minimum will be recorded on the Nevada IMACS short form. Resources except those previously determined not eligible by BLM and SHPO, or that have been fully mitigated, will be flagged for avoidance and avoided during rehabilitation activities. Flagging will be placed to minimize the potential for looting and vandalism and removed as soon as possible after re-seeding is completed. Sites will be hand seeded for camouflage as appropriate

C-2a - Cultural Resource Damage Assessment

The fires have removed the vegetative cover in several forested areas where the BLM now intends to send concentrated numbers of people to perform woodcutting. These areas have a high potential for containing significant cultural resources. Removal of vegetation exposes sites to illegal artifact collection. In areas where the BLM intends to send woodcutters, past experience dictates that these sites will be illegally collected by the woodcutters, thereby adversely affecting National Register eligible sites.

These areas have not been previously inventoried for cultural resources. Therefore, it is necessary to inventory the woodcutting areas to determine the number and type of sites present so that measures can be taken to protect important cultural resources.

C-2b - Archaeological Site Inventory

Archaeological site CRNV-12-5199 was damaged by the Charlie Fire. The site has been known to exist for some time by Elko BLM archaeologists, but it has never been properly recorded. The site was a protohistoric brush or wickiup structure and associated lithic scatter. The structure was completely burned by the fire. The fire has removed the remaining vegetative cover at the site, exposing the artifacts associated with the structure. The only effective way to manage and prevent further damage is to intensively record the site, collect stone tools visible on the surface, and excavate a number of test units to establish the potential for a subsurface component.

P-3 - Provide Law Enforcement Presence in Burned Areas for Cultural Resource Protection

Patrol selected historic and prehistoric archaeological sites and localities to monitor illegal artifact collection, vandalism and deter looters. Take action against looters on public land. Make contact with looters on private lands as appropriate.

B. Management (non-specification related)

This level of management relates to the need for inventory, evaluation and mitigation of selected sites through documentation or oral history, as well as more detailed site excavations.

The necessary stabilization, rehabilitation, or treatment required for the preservation of cultural resources affected by the fire complex, which primarily involves the inventory of rehabilitated dozer lines and road construction/maintenance, range land seeding and erosion control measures, and new fence construction are by necessity to be completed through post-incident activities using suppression or contracted resources. The fires also resulted in high-intensity impacts of longer duration. These impacts include the damage or destruction of historic cultural properties through the loss of features, the baking or melting of most metal artifacts, and the shattering or melting of nearly all glass objects.

The most pressing need for historic sites will be the implementation of the rehabilitation plan to restore those segments of the California Emigrant Trail damaged by dozer lines. The previous section discusses the need for this rehabilitation plan in consultation with members of the Oregon-California Trails Association. Following approval of this plan by the Elko BLM in consultation with the Nevada SHPO and OCTA, this BAER Plan should be amended to provide funding for implementation of the treatment plan.

Many prehistoric sites are known to have received direct impacts from dozer line construction. At the present, this damage appears to be restricted to the displacement of stone tools, but only a fraction of the 320 miles of dozer lines constructed has been inspected by Elko BLM archaeologists. Stabilization or treatment recommendations must necessarily await professional evaluation. Following complete inventory and recordation of all sites damaged by dozer line construction, each site must be evaluated for its eligibility to the National Register of Historic Places. Following these evaluations, a list must be prepared by Elko BLM archaeologists of all eligible sites adversely effected by dozer line construction. Funds must then be made available for treatment plans and implementation of all mitigative measures determined necessary by Elko BLM archaeologists, in consultation with the Nevada SHPO and appropriate Indian Tribes. Thus, the cultural resources section of this BAER Plan will require amending after initial site recordation and evaluation to cover all treatment plans and in-the-field mitigative measures.

In addition to the immediate physical effects of the fire, significant post-fire damage to sites will certainly accrue from sheet erosion and gulying resulting from accelerated runoff, particularly due to thunderstorms. The effects of these post-fire impacts will have long-term adverse consequences for many sites, primarily from accelerated erosion, but also from post-fire stabilization activities, including supplemental erosion control, greater access and visibility, and revegetation. In particular, post-suppression rehabilitation through rangeland seeding by drill, plow or chain may potentially effect historic and prehistoric cultural properties. Any rehabilitation work within these areas must be carefully coordinated with the archaeologist assigned to the project. Mitigation options range from complete avoidance to data recovery, in consultation with SHPO. It has been Elko BLM policy to

avoid significant cultural resources found during the inventories for rangeland drilling projects, so no additional costs beyond inventory, recordation, and evaluation are expected as a result of these projects.

Similarly, inventories will be necessary before the installation of new fences. It is the intent of the Elko BLM to reroute fences around eligible sites rather than request additional funding to cover mitigation costs associated with the placement of new fences through eligible sites. Thus, no additional costs beyond initial recordation and evaluation are expected as a result of new fence construction.

All equipment operations on private and public lands contribute to potential adverse effects which, although perhaps individually minor, will be significant in the long term. All post-fire rehabilitation measures, whether completed through force-account or through contract, must have specific site protective measures applied to the work. As opposed to a fire emergency, these operations are not related to the immediate protection of life and property. As a consequence, inadvertent damage to cultural resources must be prevented. Accordingly, the following non-specification related recommendations are pertinent:

1. Rehabilitation contracting will be guided by specific language in contract specifications which address the requirement to protect identified cultural resources. The sites must be flagged, and GPS mapping of the site locations is available. The map should be included as supplemental provisions of the contract. The contractor and his crew must be briefed as to site locations and the requirement to follow specific site treatment recommendations. Archaeological monitors will be in direct contact with the COR and BLM representative to ensure compliance with the cultural resource protection requirements.
2. A post-project inspection should be undertaken, and compliance with the site protection requirements should be a specific evaluation item in the final inspection and compliance report.
3. A number of sites have been reported on private and public land within the area which may be or have been rehabilitated, or which may have erosion control and other post-fire mitigation projects. These sites and features should be mapped by GPS and comprehensively evaluated once they have been mapped.
4. Finally, the necessity of a complete reorganization of the Field Office's cultural resource files should be seriously pursued. The GIS capability of the Elko Field Office should be utilized to its full extent in compiling a comprehensive data base of recorded and known cultural properties, which can then be available for future incidents. At present, it is impossible for researchers and resource advisors to access site location information without spending a substantial amount of time looking through files and reports, when the information is needed immediately for fire and other natural emergencies.

VI. CONSULTATIONS

Table CR.3 Consultations Concerning the Elko 21 Fire Complex

Consultant	Dates	Subjects and Results of Consultation
Bryan Hockett, Bureau of Land Management, Elko Field Office	8/14-9/17	Preparation of BAER report assessment and specifications; field examination of burn areas and dozer lines
Tim Murphy, Archaeologist, Bureau of Land Management, Elko Field Office	8/26-9/11	Assistance with assessment preparation and verbal assistance
Eric Dillingham, Archaeologist, Bureau of Land Management, Elko Field Office	8/1-8/26	Field examination of burn and dozer lines; post-field write-up regarding location of sites damaged